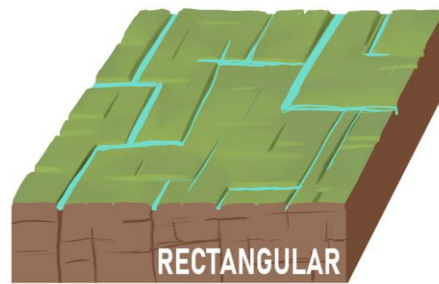
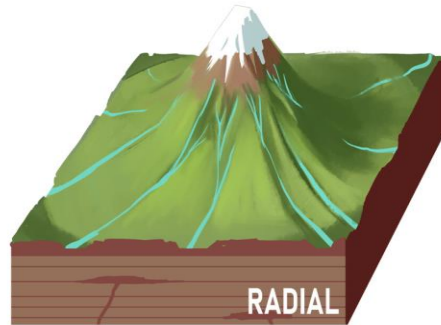


DRAINAGE PATTERNS



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Drainage:

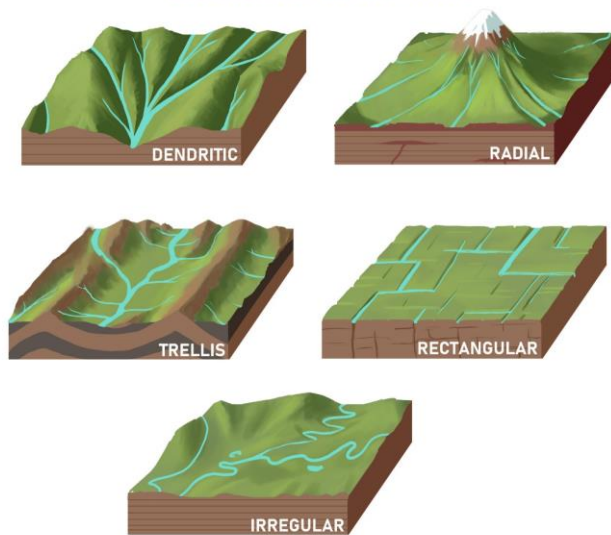
The flow of water through well-defined channels is known as 'drainage' and the network of such channels is called a 'drainage system'.

Drainage Pattern:

It refers to the system of flow of surface water mainly through the forms of rivers and basins. The drainage system depends upon factors such as slope of land, geological structure, amount of volume of water and velocity of water.

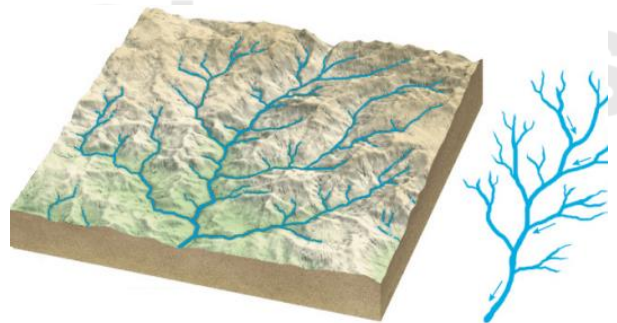
Types of Drainage Patterns

DRAINAGE PATTERNS



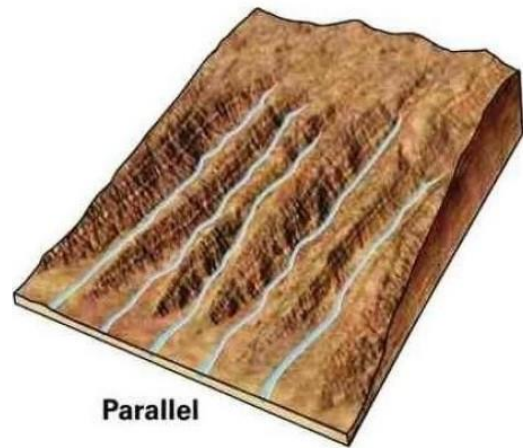
Dendritic Drainage Pattern:

- It is the most common form and resembles the branching pattern of tree roots.
- The dendritic pattern develops where the river channel follows the slope of the terrain.
- The pattern develops in areas where the rock beneath the stream has no particular structure and can be eroded equally easily in all directions.
- Tributaries join larger streams at acute angles (less than 90°).
- E.g. The rivers of the northern plains; Indus, Ganga and Brahmaputra.



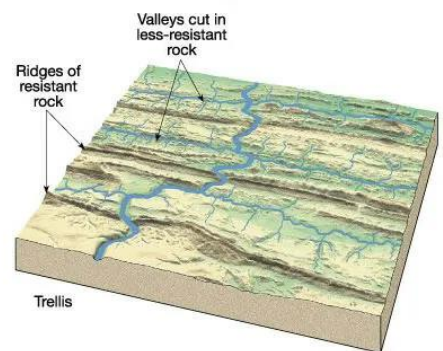
Parallel drainage pattern:

- It develops in regions of parallel, elongated landforms where there is a pronounced slope to the surface.
- Tributary streams tend to stretch out in a parallel-like fashion following the slope of the surface.
- E.g. The rivers originating in the Western Ghats; Godavari, Kaveri, Krishna, and Tungabhadra.



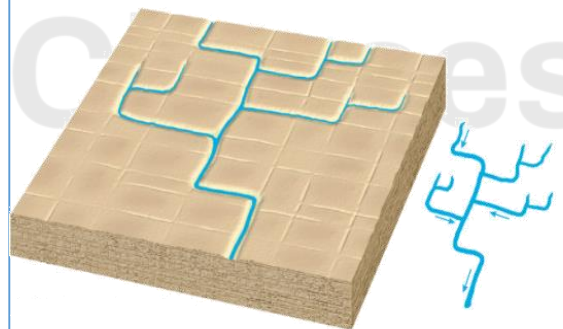
Trellis Drainage Pattern:

- Trellis drainage develops in folded topography where hard and soft rocks exist parallel to each other.
- Down-turned folds called synclines form valleys in which reside the main channel of the stream.
- Such a pattern is formed when the primary tributaries of main rivers flow parallel to each other and secondary tributaries join them at right angles.
- E.g. The rivers in the upper part of the Himalayan region; Indus, Ganga and Brahmaputra.



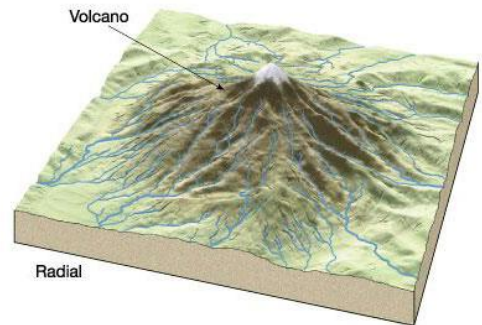
Rectangular Drainage Pattern:

- The rectangular drainage pattern is found in regions that have undergone faulting.
- It develops on a strongly jointed rocky terrain.
- Streams follow the path of least resistance and thus are concentrated in places where exposed rock is the weakest.
- The tributary streams make sharp bends and enter the main stream at high angles.
- E.g. Streams found in the Vindhya mountain range; Chambal, Betwa and Ken.



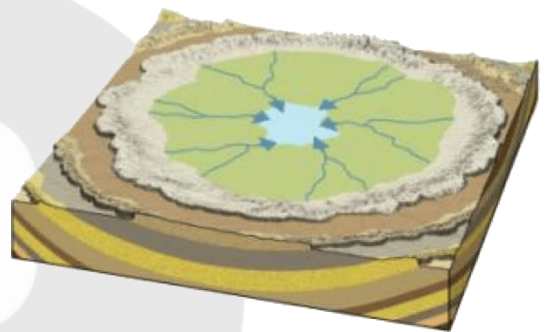
Radial Drainage Pattern:

- The radial drainage pattern develops around a central elevated point and is common to conically shaped features such as volcanoes.
- When the rivers originate from a hill and flow in all directions, the drainage pattern is known as 'radial'.
- E.g. The rivers originating from the Amarkantak range; Narmada and Son (tributary of Ganga).



Centripetal Drainage Pattern:

- It is just the opposite of the radial as streams flow toward a central depression.
- During wetter portions of the year, these streams feed ephemeral lakes, which evaporate away during dry periods.
- Sometimes, salt flats are also created in these dry lake beds as salt dissolved in the lake water precipitates out of solution and is left behind when the water evaporates away.
- E.g. Loktak lake in Manipur.



Folding and Faulting

- When the Earth's crust is pushed together via compression forces, it can experience geological processes called folding and faulting.
- Folding occurs when the Earth's crust bends away from a flat surface.
- A bend upward results in an anticline and a bend downward results in a syncline.
- Faulting happens when the Earth's crust completely breaks and slides past each other.
- Whether the Earth's crust experiences a fold or fault will depend on the material it is made out of in that area.
- A fold is more likely to happen with flexible material and it is what causes mountains to form, whereas a fault will happen with more brittle material and is what causes earthquakes to occur.